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Building & Highway Material Testing Laboratory

NABL - Accredited Laboratory as per ISO / IEC-17025 : 2005

Job No.: CTCE/BBMP/W No.15/KRIDL/WMM/Gradation/2015-16

07.04.2015

GRADATION FOR WMM
MORTH TABLE-400-11

Client : **Asst. Executive Engineer,** T. Dasarahalli Sub Division, BBMP, Bangalore.

Agency : **Technical Manager (West),** KRIDL, Bangalore.

Name of Work : Providing asphalting to Krishnegowda Nagara & Coconut Garden roads in Dasarahalli, Ward No. 15, T. Dasarahalli Sub Division, BBMP, Bangalore.

Reference : BBMP/DZ/AEE/TDSD/PR/2015-16 Dated: 04.04.2015

Date of Testing : 07.04.2015

Material : WMM

Sample Location : WMM Mix Plant

Oven Dry Wt (gr **26975**

Is Sieve Size in mm	Weight Retained (gm)	Cumulative Weight Retained (gm)	Cumulative % of Retained	Cumulative % of Passing	Spec.Limits
53	0	0	0	100	100
45	718	718	2.7	97.3	95-100
22.4	8159	8877	32.9	67.1	60-80
11.2	4876	13753	51.0	49.0	40-60
4.75	3954	17707	65.6	34.4	25-40
2.36	3428	21135	78.4	21.6	15-30
0.600	2642	23777	88.1	11.9	8-22
0.075	1963	25740	95.4	4.6	0-8

Note:

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Job No.: CTCE/BBMP/W No.15/KRIDL/WMM/AIV/2015-16 07.04.2015

Aggregate Impact Value

IS: 2386 Part IV

Client	**Asst. Executive Engineer,** T. Dasarahalli Sub Division, BBMP, Bangalore.
Agency	**Technical Manager (West),** KRIDL, Bangalore.
Name of the Work	Providing asphalting to Krishnegowda Nagara & Coconut Garden roads in Dasarahalli, Ward No. 15, T. Dasarahalli Sub Division, BBMP, Bangalore.
Reference	BBMP/DZ/AEE/TDSD/PR/2015-16 Dated: 04.04.2015
Source / Location	WMM Plant
Type of Mix	Wet Mix macadam
Date of Testing	07.04.2015

Sl No.	Details	Trial No. 1	Trial No. 2	Average
1	Total weight of aggregate sample filling the cylindrical measure = W_1 g	380	382	
2	Weight of agregate passing 2.36 mm sieve after the test = W_2 g	83	86	
3	Weight of aggregate retained 2.36 mm sieve after the test = W_3 g	297	296	
4	Aggregate Impact value = percent fines	21.84	22.51	
	100* (W_2/W_1)%			22.18

Comments:

→ Maximum allowable Aggregate Impact value for Wet mix Macadam is 30%

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ಸಹಾಯಕ ಕಾರ್ಯಪಾಲಕ ಅಭಿಯಂತರರು
ಟಿ.ದಾಸರಹಳ್ಳಿ ಉಪ-ವಿಭಾಗ
ಬಿಬಿಎಂಪಿ, ಬೆಂಗಳೂರು

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Job No.: CTCE/BBMP/W No.15/KRIDL/WMM/Shape.T/2015-16 : 07.04.2015

DETERMINATION OF FLAKINESS INDEX & ELONGATION INDEX OF COARSE AGGREGATES

Client	: **Asst. Executive Engineer,** T. Dasarahalli Sub Division, BBMP, Bangalore.
Agency	: **Technical Manager (West),** KRIDL, Bangalore.
Name of Work	: Providing asphalting to Krishnegowda Nagara & Coconut Garden roads in Dasarahalli, Ward No. 15, T. Dasarahalli Sub Division, BBMP, Bangalore.
Reference	: BBMP/DZ/AEE/TDSD/PR/2015-16 Dated: 04.04.2015
Technical Reference	: IS 2386(Part 1) 1963 (RA 2007)
Type of Mix	: Wet Mix Macadam
Date of Testing	: 07.04.2015

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Result : Flakiness Index = **11.37%**

Elongation Index = **13.62%**

Result : Combined Flakiness & Elongation index **24.99%**

Comments:

Maximum allowable Flakiness & Elongation Index for Wet Mix Macadam is 30%

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Bangalore-560079.

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Tele Fax : 23223227, Website : www.civiltechconsultants.com
E-mail : vishwanath.ia@civiltechconsultants.com / info@civiltechconsultants.com

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Job No.: CTCE/BBMP/W.No.15/KRIDL/SDBC/Bitumen/2015-16 17.04.2015

BITUMEN DETERMINATION OF SEMI DENSE BITUMINOUS CONCRETE MIX

AS per IRC : SP : 11 - 1984

CLIENT	**Asst. Executive Engineer,** T. Dasarahalli Sub Division, BBMP, Bangalore.
AGENCY	**Technical Manager (West),** KRIDL, Bangalore.
NAME OF THE WORK	Providing asphalting to Krishnegowda Nagara & Coconut Garden roads in Dasarahalli, Ward No. 15, T. Dasarahalli Sub Division, BBMP, Bangalore.
REFERENCE	BBMP/DZ/AEE/TDSD/PR/2015-16 Dated: 04.04.2015
SAMPLE I/D	Roads in Coconut Garden, Ward No. 15
DATE OF TESTING	17.04.2015

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BITUMEN CONTENT DETERMINATION

Description	Trail 1	Trail 2
1. Weight of Mixture before Test, g	500	500
2. Weight of Mixture after Test, g	474.5	474.5
3. Weight of Asphalt and Mineral matter Extracted, g	-	-
4. Weight of Mineral Matter, g.	-	-
5. Weight of Ash, g		
6. Weight of Bitumen Extracted, g. (corrected)	25.5	25.50
7. Bitumen content in %	5.10	5.10
8. Average	**5.10**	

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Building & Highway Material Testing Laboratory

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Job No.: CTCE/BBMP/W.No.15/KRIDL/SDBC/Gradation/2015-16 17.04.2015

GRADATION DETERMINATION OF SEMI DENSE BITUMINOUS CONCRETE MIX

As per IS : 2386 and IRC : SP : 11 - 1984

CLIENT	**Asst. Executive Engineer,** T. Dasarahalli Sub Division, BBMP, Bangalore.
AGENCY	**Technical Manager (West),** KRIDL, Bangalore.
NAME OF THE WORK	Providing asphalting to Krishnegowda Nagara & Coconut Garden roads in Dasarahalli, Ward No. 15, T. Dasarahalli Sub Division, BBMP, Bangalore.
REFERENCE	BBMP/DZ/AEE/TDSD/PR/2015-16 Dated: 04.04.2015
SAMPLE I/D	Roads in Coconut Garden, Ward No. 15
DATE OF TESTING	17.04.2015

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GRADATION AFTER EXTRACTION

Sieve Size in mm	Trail 1				Specified Limits as per MORTH specification table 500-15 (Grading-2)
	Weight Retained, gm	% Retained	%Cummulative Retained	% Passing	
13.2	0	0	0	100	100
9.5	26.12	5.50	5.50	94.50	90-100
4.75	248.96	52.47	57.97	42.03	35-51
2.36	54.32	11.45	69.42	30.58	24-39
1.18	51.26	10.80	80.22	19.78	15-30
0.3	28.79	6.07	86.29	13.71	9-19
0.075	37.98	8.00	94.30	5.70	3-8

Sieve Size in mm	Trail 2				Specified Limits as per MORTH specification table 500-15 (Grading-2)
	Weight Retained, gm	% Retained	%Cummulative Retained	% Passing	
13.2	0	0	0	100	100
9.5	33.68	7.10	7.10	92.90	90-100
4.75	259.87	54.77	61.87	38.13	35-51
2.36	56.32	11.87	73.73	26.27	24-39
1.18	42.15	8.88	82.62	17.38	15-30
0.3	25.68	5.41	88.03	11.97	9-19
0.075	30.27	6.38	94.41	5.59	3-8

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Job No.: CTCE/BBMP/W.No.15/KRIDL/SDBC/Bitumen/2015-16 18.04.2015

BITUMEN DETERMINATION OF SEMI DENSE BITUMINOUS CONCRETE MIX

AS per IRC : SP : 11 - 1984

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REFERENCE	BBMP/DZ/AEE/TDSD/PR/2015-16 Dated: 04.04.2015
SAMPLE I/D	Roads in Krishnegowda Nagara, Ward No. 15
DATE OF TESTING	18.04.2015

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BITUMEN CONTENT DETERMINATION

Description	Trail 1	Trail 2
1. Weight of Mixture before Test, g	500	500
2. Weight of Mixture after Test, g	475	474.5
3. Weight of Asphalt and Mineral matter Extracted, g	-	-
4. Weight of Mineral Matter, g.	-	-
5. Weight of Ash, g		
6. Weight of Bitumen Extracted, g. (corrected)	25	25.50
7. Bitumen content in %	5.00	5.10
8. Average	**5.05**	

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Bangalore-560079.

#23/14, 7th Cross, 3rd Stage, 4th Block, Shakthi Ganapathi Nagara, Basaveshwaranagar, Bangalore-79.
Tele Fax : 23223227, Website : www.civiltechconsultants.com
E-mail : vishwanath.ia@civiltechconsultants.com / info@civiltechconsultants.com

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GRADATION DETERMINATION OF SEMI DENSE BITUMINOUS CONCRETE MIX

As per IS : 2386 and IRC : SP : 11 - 1984

CLIENT	**Asst. Executive Engineer,** T. Dasarahalli Sub Division, BBMP, Bangalore.
AGENCY	**Technical Manager (West),** KRIDL, Bangalore.
NAME OF THE WORK	Providing asphalting to Krishnegowda Nagara & Coconut Garden roads in Dasarahalli, Ward No. 15, T. Dasarahalli Sub Division, BBMP, Bangalore.
REFERENCE	BBMP/DZ/AEE/TDSD/PR/2015-16 Dated: 04.04.2015
SAMPLE I/D	Roads in Krishnegowda Nagara, Ward No. 15
DATE OF TESTING	18.04.2015

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GRADATION AFTER EXTRACTION

Sieve Size in mm	Trail 1				Specified Limits as per MORTH specification table 500-15 (Grading-2)
	Weight Retained, gm	% Retained	%Cummulative Retained	% Passing	
13.2	0	0	0	100	100
9.5	23.89	5.03	5.03	94.97	90-100
4.75	247.65	52.14	57.17	42.83	35-51
2.36	55.38	11.66	68.83	31.17	24-39
1.18	52.13	10.97	79.80	20.20	15-30
0.3	27.95	5.88	85.68	14.32	9-19
0.075	38.16	8.03	93.72	6.28	3-8

Sieve Size in mm	Trail 2				Specified Limits as per MORTH specification table 500-15 (Grading-2)
	Weight Retained, gm	% Retained	%Cummulative Retained	% Passing	
13.2	0	0	0	100	100
9.5	34.15	7.20	7.20	92.80	90-100
4.75	258.63	54.51	61.70	38.30	35-51
2.36	53.47	11.27	72.97	27.03	24-39
1.18	41.89	8.83	81.80	18.20	15-30
0.3	26.38	5.56	87.36	12.64	9-19
0.075	28.57	6.02	93.38	6.62	3-8

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Tele Fax : 23223227, Website : www.civiltechconsultants.com
E-mail : vishwanath.ia@civiltechconsultants.com / info@civiltechconsultants.com